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Job No.: CECTC/BBMP/GNR/W.No.14/CEMENT/2016-17 Date: 10.01.2017

TEST REPORT ON CEMENT

CLIENT	:	**Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
AGENCY	:	**Sri. G.N.Ramesh,** Contractor, Bangalore.
NAME OF THE WORK	:	Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.
SAMPLE ID	:	Cement
DATE OF TESTING	:	10.01.2017

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988(RA-2009)	28.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988(RA-2009)	196 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988(RA-2009)	484 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988(RA-2009)	1 mm	Not more than 10mm

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⇒ Any Query regarding the report must be reported within 15 days from the date of testing.

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Job No.: CECTC/BBMP/GNR/W.No.14/AGG/GR/2016-17 : 10.01.2017

TEST REPORT ON COARSE AGGREGATES

Customer : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Sri. G.N.Ramesh,** Contractor, Bangalore.

Name of Work : Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.

Technical Reference : IS : 2386 Part 1 -1963 RA-2007

Sample ID : Coarse Aggregates (40mm)

Date of Testing : 10.01.2017

Total Wt. of Aggregates in gms= **7000**

Is Sieve Size in mm	Cumulative Weight Passing in %	Spec.Limits as per IS 383-1970 (RA- 2007)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.20	95-100	85-100
20	35.10	30-70	0-20
10	16.10	10-35	0-5
4.75	2.75	0-5	-

Remarks : This sample is under Graded specific limits.

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Job No.: CECTC/BBMP/GNR/W.No.14/WMM/AL/2016-17 Date: : 08.02.2017

ATTERBERG LIMITS TEST FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Sri. G.N.Ramesh,** Contractor, Bangalore.

Name of Work : Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.

Date of Testing : 08.02.2017

Material : Wet Mix Macadam

Sample Location : WMM Mix Plant

As per MORTH Table 400-11

Sl. No.	Particulars	Test Results	Standards as per Specifications
1	Liquid Limit	20.50	-
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

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Job No.: CECTC/BBMP/GNR/W.No.14/WMM/GR/2016-17 Date : 08.02.2017

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.

Agency : **Sri. G.N.Ramesh,** Contractor, Bangalore.

Name of Work : Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.

Date of Testing : 08.02.2017

Material : Wet Mix Macadam

Sample Location : WMM Mix Plant Oven Dry Wt (gm): **12778**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	488	488	3.8	96.2	95-100
22.4	4340	4828	37.8	62.2	60-80
11.2	2680	7508	58.8	41.2	40-60
4.75	1570	9078	71.0	29.0	25-40
2.36	1345	10423	81.6	18.4	15-30
0.600	1290	11713	91.7	8.3	8-22
0.075	755	12468	97.6	2.4	0-8

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Job No.: CECTC/BBMP/GNR/W.No.14/BC/AIV/2016-17 13.02.2017

Aggregate Impact Value

IS: 2386 Part IV

Client	**Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
Agency	**Sri. G.N.Ramesh,** Contractor, Bangalore.
Name of the Work	Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.
Source / Location	Hot Mix Plant, Bangalore
Type of Mix	Bituminous Concrete
Date of Testing	13.02.2017

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	384	386	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	85	87	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	299	299	
4	Aggregate Impact value = percent fines 100* (W_2/W_1) percent	22.14	22.54	**22.34**

Comments:

→ Maximum allowable Aggregate Impact value for Bituminous Concrete is 24%

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Job No.: CECTC/BBMP/GNR/W.No.14/BC/Stability/2016-17 14.02.2017

TEST REPORT ON STABILITY OF MIX

Client	:	**Asst. Executive Engineer,** Dasarahalli Sub Division, BBMP, Bangalore.
Agency	:	**Sri. G.N.Ramesh,** Contractor, Bangalore.
Name of the Work	:	Improvements to main roads & cross roads at Manjunathanagra Ward No.14, Bagalagunte, BBMP, Bangalore.
Source of location	:	Hot mix Plant, Bangalore
Type of Mix	:	Bituminous Concrete
Date of Testing	:	14.02.2017

The results of the tests conducted on the Bituminous Concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-19)
1	Marshal Stability, Kn	9.75	10.30	9 Kn (min)
2	Marshal flow, mm	2.25	3.55	2 – 4
3	Percent air voids in Mineral Aggregate	14.20	13.15	13 – 15
4	Voids in Compacted Mix	5.15	4.80	3 – 6
5	Percent Voids filled with Bitumen	69.30	70.35	65 - 75
6	Density, g/cc	2.26	2.27	--

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